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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/647,007 | 09/26/2000 | S. Joseph Campanella | 40264 | 3843 |

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EXAMINER

JUNG, MIN

| ART UNIT | PAPER NUMBER |
|----------|--------------|
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2663

DATE MAILED: 05/25/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/647,007

Applicant(s)

CAMPANELLA, S. JOSEPH

Examiner

Min Jung

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 September 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) 35-38 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10-17 and 27-34 is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, 8, 18, 19, 25, 26 and 39-41 is/are rejected.
- 7) ☒ Claim(s) 5, 7, 9 and 20-24 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>4, 6</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 1-34 and 39-41, drawn to broadcasting system including satellite and a terrestrial repeater, and covering functions performed at the repeater or at a radio receiver.

Group II, claim(s) 35-37, drawn to an indoor reinforcement system for receiving satellite signals with selective power level.

Group III, claim(s) 38, drawn to a reinforcement system for receiving satellite signals including at least two terrestrial repeaters characterized by certain height, distance, and the slant distance.

2. The inventions listed as Groups I, II, and III do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: Group II covers one area of satellite communication technology, which specifically covers the concept of power level selection for optimum performance, while Group III covers the specific distance relationship between two repeaters to control the delay in reception of satellite signals. Each of these distinct ideas is further distinct from the concept of invention in Group I, which covers the technique of frequency translation functions, signal conversion functions, and receiver functions.

3. During a telephone conversation with Mr. John Holms on April 23 and 29, 2004 a provisional election was made without traverse to prosecute the invention of I, claims 1-34 and 39-41. Affirmation of this election must be made by applicant in replying to this

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Office action. Claims 35-38 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 25-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 25, line 14, "said third satellite signal" lacks antecedent basis.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-4, 6, 39, and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee, US 5,081,703.

Lee discloses a Satellite mobile communication system for rural service areas. Lee teaches that the satellite (130) receives communication signals transmitted from earth stations (cell sites and remote converter sites) and transmits the communication signals on a first carrier frequency (SHF); and a terrestrial repeater for receiving the

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satellite signal and for generating and transmitting a terrestrial signal from the satellite signal on a second carrier frequency that is different from the first carrier frequency. The terrestrial signal is modulated by the terrestrial repeater in accordance with a modulation technique (the signal is fed to the mixer 402 and the filter 433 before being transmitted, the process of which read on the signal modulation). See col. 5, line 36 – col. 6, line 8. The signal modulated to be transmitted on UHF band would inherently be a multipath-tolerant modulation technique because any kind of radio transmission has to fight the multipath effect. What Lee fails to specifically teach is the broadcast signal. Lee's system is generally for a mobile communication using communication satellite, and therefore does not include specific detail of broadcasting using the disclosed system. However, broadcasting is just one form of communication, and can be applied using the mobile communication system taught by Lee. That is, it would have been obvious for one of ordinary skill in the art at the time of the invention to implement the system of Lee by making the signals transmitted by the cell site 140 a broadcast signal to be broadcast to the remote cell sites.

Further, Lee fails to teach specific modulation technique. However, it would have been obvious for one of ordinary skill in the art at the time of the invention to employ any of the available modulation techniques to properly modulate the signals for radio transmission since the recited modulation technique are well known and widely used in radio communication environment including satellite and terrestrial communication systems.

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8. Claims 8, 18, 19, and 41 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lee in view of Hulyalkar et al., US 5,291,289 (Hulyalkar).

Lee, as summarized above, fails to specifically teach multicarrier modulation for generating the terrestrial signal. However, multicarrier modulation is a common form of modulation adopted in terrestrial broadcasting, as evidenced by the patent to Hulyalkar. Hulyalkar teaches a technique for modulating and demodulating an MCM television signal in HDTV terrestrial broadcasting environment. Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention to implement Lee's system so as to modulate the signals according to multicarrier modulation as taught by Hulyalkar in order to generate a modulated signal for transmission on radio link.

Allowable Subject Matter

9. Claims 10-17, 27-34 are allowed.

10. Claims 5, 7, 9, and 20-24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. Claims 25-26 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The McGann patent, the Sykes et al. patent, the Campanella

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patent, the Leslie et al. patent, the Yi patents, the Briskman et al. patent, the Wiedeman patents, the Dent patent, and the Stewart et al. patent, are cited for further references.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Min Jung whose telephone number is 703-305-4363.

The examiner can normally be reached on Monday-Friday, 7AM-3PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on 703-308-5340. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MJ
May 19, 2004


Min Jung
Primary Examiner